

## SHORTER NOTES

**DIPLAZIUM JAPONICUM NEW TO ALABAMA.**—In the summer of 1977 while I was a student at Auburn University, J. I. Glick, another student, asked me to confirm his identification of a fern frond he had collected from a plant growing in a steep-sided, wooded ditch on the Auburn campus in an area that had been allowed to remain wild by the university groundskeepers. Glick had identified the frond as *Athyrium thelypteroides*. However, Auburn is in Lee County of east-central Alabama, far south of the range of that fern, and the fern did not look exactly like *A. thelypteroides*. I identified the frond as *Diplazium japonicum* (Thunb.) Bedd., a native of eastern Asia (*Glick s.n.*, *Short 979*, both AUA). According to Wherry (*Southern Fern Guide*, 1964), this fern had been found previously in one Florida locality. Wherry was doubtful whether the fern was cultivated locally and did not know the source of the spores which produced the plants. The species is not known to be in cultivation in the Auburn area, and the source of these plants is equally unknown. To my knowledge, *D. japonicum* has not been reported from any other localities in the southeastern United States. The Auburn population consisted of two mature, spore-bearing plants and several juveniles. The plants seem to be established well enough to be considered naturalized. The winters previous to and subsequent to the plants' discovery were among the most severe on record, but they had no adverse effect on the plants. Other ferns found in the ditch include *Asplenium platyneuron* and the naturalized *Lygodium japonicum*, *Pteris multifida*, and *Thelypteris torresiana*.—*John W. Short, 905 McKinley Ave., Auburn, AL 36830.*

**MOTHS AND FERNS.**—In a previous paper (*Amer. Fern J.* 61:166-170. 1971), I reported on a nymphalid-like moth that oviposits on *Cyathea holdridgeana* in such a fashion that the eggs mimic the immature sori of the fern. Recently, I have found the larvae of a microlepidopteron predated the laminar tissue of *Cnemidaria mutica*, *C. choricarpa*, and *Sphaeropteris brunei*, of the family Cyatheaceae. In their last stages, the caterpillars weave cocoons with silk, spores, and sporangia. The adults obtained from the three ferns are the same species of moth, a species yet to be determined. Another moth lays eggs on the fronds of *Botrychium dissectum*. The larval stages feed on it and later spin a cocoon by sewing together two segments or pinnules.

The most interesting relationship between moths and ferns I have encountered so far is that of *Hymenophyllum myriocarpum* and a microlepidopteron whose larvae feed on the filmy fern and pupate in a case made up of the folded segments, which then resemble mature involucre in their size, color, and position. It is surprising to find that the insects only use the basal, lower, and middle pinnae of the fern fronds to build their cocoons, perhaps to guarantee themselves an appropriate relative humidity among the mosses or a more efficient camouflage. Certainly, a careful survey of tropical ferns will reveal that they are not so impervious to insect attack as they commonly are thought to be.—*Luis D. Gómez P., Herbario Nacional, Museo Nacional de Costa Rica, Apartado 749, San Jose, Costa Rica.*